REMARKS

This, the second Amendment in the Application is submitted as a full response to the Office Action stamped with the date 5/5/93. Reconsideration of the Application and claims is requested in view of the amendments to the application and claims and in view of the distinguishing features pointed out herein and in the telephone interview of June 4, 1993.

The telephone interview is acknowledged with appreciation. It is believed that the claims which have been re-written as new claims 18 through 27 incorporate the features and structure which the Examiner indicated would distinguish over the art. New claim 18 corresponds to claim 8 and new claim 23 corresponds to claim 16. Dependent claims 19-22 and 24-27 merely add further details and preferred variations.

The specification has been further amended to correct typographical errors not corrected in the first amendment. The errors in the abstract have been corrected as pointed out in the Office Action.

Applicant would ask the Examiner to reconsider the objections set forth in paragraphs 3 and 6 of the Office Action since the references cited are part of the original disclosure and are not cited for purposes of rejections but rather as an aid in teaching one skilled in the art the area to which the invention applies. It is believed that the specification as amended makes it clear that the references cited would help one skilled in the art understand the invention.

It is further noted that the references cited by the Examiner include references in the same manner and that it is a long standing practice to include such references by listing and incorporation by reference.

The claims have been re-written since it is easier to correct the numerous problems of form pointed out by the Examiner , but independent claims 18 and 23 follow closely the language of previous claims 8 and 16. It is believed that as re-written the claims correct all of the problems of antecedents and form, in addition to more clearly claiming the invention Applicant regards his invention. The re-written claims incorporate the language discussed in the telephone interview which more clearly defines the structure of Applicants' invention and which distinguishes Applicants' invention over the prior art.

Applicant has not modified the Summary of the Invention in accordance with the discussion with the Examiner. This portion of the specification includes some material describing the types of trucks and steering problems encountered and more clearly explains Applicants' invention. Applicant would have no objection to shortening this portion but off-hand does not see an easy method for removing or re-wording this portion without creating difficulties in reading the specification.

The list of references cited and reference to 35 USC section 112 serve this same purpose and therefore should be maintained in the specification. To more clearly illustrate one embodiment of the restraining means; enlargement of a portion of Figures 8 and 9 were submitted with the first Amendment for review and approval by the Examiner before correction of the drawings were requested.

Complete enlargements of Figures 8 and 9 are submitted herewith for replacement of the versions of Figures 8 and 9 originally filed. It is believed that the enlargements show that all features of the invention are clearly illustrated. The ambiguity of numeral 39 has been corrected as suggested by the Examiner by adding numeral 39A.

Reference to numeral 39 and 39A has been changed in the specification on page 19, lines 18 and 22 and page 20, line 20 and on the drawings to make it clear that numeral 39 refers to the elastomeric or rubber like portion of the air bellows spring means which is identified generally by numeral 39A in figures 8 and 9. It is believed that these requested changes correct any problems with the drawing illustrating all features of the invention. Approval by the Examiner is requested.

It is requested that the requirement for formal drawings be held in abeyance until allowable claims are indicated.

Claims 8 and 16 have been re-written as claims 18 and 23 respectively. As re-written these claims clearly define the lower mounting bracket as a "saddle bracket" which according to Websters 7th New Collegiate Dictionary defines as a "shaped mounted support for an object". The claims further includes language which clearly defines the U-shaped bracket shown in Figures 4 through 9 which was specifically covered by original claim 2 and which is discussed extensively in the specification at page 16 line 24 through page 17, line 11 and page 20, line 1, through about line 21.

It is believed that these features of claims, 18 and 23 clearly distinguish Applicants' invention as claimed over the prior art as will be further pointed out herein. Allowance is therefore requested.

Dependent claims 19 through 22 and 24 through 27 respectively cover preferred variations which have been previously submitted in the claims.

The references cited in the Office Action do not show or suggest Applicants' invention as now clearly claimed.

U.S. Patent 4,919,399 to Selzer et. al. describes a reaction leaf or beam member which is necessary for a leaf spring suspension to aid in resisting braking torque(see Col. 2, lines 20-24, lines 34-48; Col. 3 lines 50-54). Selzer incidentally mentions that an air spring can be used on the leaf spring assembly at the mid point to maintain a constant height relative to the axle(see Col. 2 lines 49-52; Col. 3, lines 19-32).

Selzer does not show any method or reason for using an air spring in any other manner and suggests that his invention is used only for "resisting braking torque" and not for aid in vertical suspension(Col. 2, lines 20-24). In fact, the leaf springs and air spring shown by Selzer in Figures 2, 3 and 1 respectively will not work with the ordinary and conventional leaf springs used on most truck type motor vehicles. This will be apparent upon examining the methods in which leaf springs are attached to axles. For example, as shown in the references Harbers et. al. and Pribonic et. al. A leaf spring is formed and attached to an axle by clamping the leaves of the spring between flat plates and to the axle using U-bolts. See Figures 1 and 2 of Harbers et. al. and Figure 1 of Pribonic. The U-bolt clamp assembly makes the leaf spring assembly rigid in the middle so that the leaves do not move relative to each other in the area over or under the axle.

The leaf spring functions by holding the leaves rigid in the center and allowing the ends of each leaf to flex according to the load placed thereon. Therefore the ends of each leaf must be free to move relative to the leaves above and below it.

In Figure 2, Selzer shows the top two leaves fixed relative to each other both at the middle where the axle would be secured and at the front of the leaf spring.

In Figure 3, Selzer shows the top two leaves fixed relative to each other at the middle where the axle would be secured and at both ends. Likewise, Selzer shows in Figure 1 an air spring that could not fit over the conventional leaf spring of a typical truck because it allows no clearance for the axle mounting plates and U-bolts.

Certainly, Selzer would teach one skilled in the art that the braking beam must be used and that the air spring would not be useful for providing any lifting force to a conventional leaf spring assembly. At least, Selzer suggests that an air spring should be used over the top of the axle, not behind it for any reason.

Reference 3,063,732 to Harbers et. al. teaches that air springs can be used in place of leaf springs. Harbers describes the problems with ordinary leaf springs(see Col. 1 lines 28-35). Yet Harbers shows the use of leaf springs in conjunction with air springs in Figures 1 and 2 in which the leaf springs must carry all of the load placed on the axle. An air spring is bolted through and to the top leaf at the extreme front of the leaf spring and in some manner the adjustable air spring is to provide an adjustable suspension. It is submitted that in order for the air spring assembly of Harbers to function, the leaf springs must be heavy enough to carry the maximum load anticipated and they would therefore function as an inflexible bar under all the conditions so that the assembly is merely an air spring support similar to that described by Assh, U.S. Pat. 5,024,462. In Assh the air spring merely adjusts the rear roller which is otherwise a fixed point against which the leaf spring flexes.

Harbers also suggests that an air spring must be rigidly bolted to an independent sub-frame(see Col.2 lines 39-59) and through and to the front terminal end of the leaf spring.

Applicants' invention neither requires the special sub-frame nor bolting an air spring through the leaf spring at any position.

Further. the air springs of Harbers could not be used with the assembly of Selzer because the air spring of Harbers is larger that those of Selzer and would not fit on top of the axle plate and U-bolts of Selzer, even if some method was apparent for bolting the air spring through the leaf spring of Selzer on top of the axle.

U.S. Pat. 3,285,281 to Pribonic shows an air pressure regulating valve which would work with Applicants' invention. It also shows what are known as air adjustable shock absorbers mounted to the lower portion of the leaf spring axle mounting plate.(see Col. 2 lines 36-52) The details of the shock absorber and air adjustable portion are described in U.S. Pat. 3,042,392 which is incorporated by reference(see Col. 2 lines 49-52).

Shock absorbers are built to attach to a low point on the axle or axle plate so that the clamping action is applied close to the wheel and thereby create as little stress as possible through the springs and other mounting apparatus. Pribonic shows the adjustable shock absorber mounted on the lower plate below the leaf springs where the leaf springs are attached to the axles by U-bolts. Therefore the adjustable shock absorber is attached to a rigid part of the axle mounting assembly, not to the leaf spring. Leaf springs and the assembly described by Pribonic are used on the rear springs of a vehicle as shown to lift the rear of the vehicle.

Therefore, Pribonic does not show or suggest any method of improving the steering characteristics of the front steering axle of any vehicle, much less a truck. Pribonic does not suggest any method of using an air spring directly on a conventional leaf spring at any position or in any manner.

As pointed out above, U.S. Pat. 5,024,462 to Assh likewise does not show or suggest Applicants' invention. Assh shows another method of using an adjustable support for the end of a leaf spring and in that respect would relate to Harbers. Assh adds nothing to Harbers or any other reference which would suggest the advantages accomplished by Applicants' invention or any method for producing Applicants' invention if there was any teaching of a reason or manner for making such a combination.

It is submitted that the Examiner is too modest relative to his knowledge and expertise. Clearly the Examiner's level of skill and expertise is greater than one skilled in the art. It is apparent that one skilled in the art would find no teachings or any reason or manner for combining the references cited and that there are no teachings which would suggest Applicants' invention or any reason for combining parts to produce Applicants' invention. Therefore, reconsideration of Applicants' invention as claimed is requested.

It is believed that the claims as amended clearly distinguish over the art and are allowable. Indication of allowability is requested.

If a telephone conference would expedite indication of allowance of one or more claims, the Examiner is requested to call Applicants' Attorney to expedite such allowance.

The Attorneys' regular phone number is (903) 297-3031, but the Attorney can frequently be contacted at (903) 843-5513.

Respectfully Submitted,

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